

Fig1

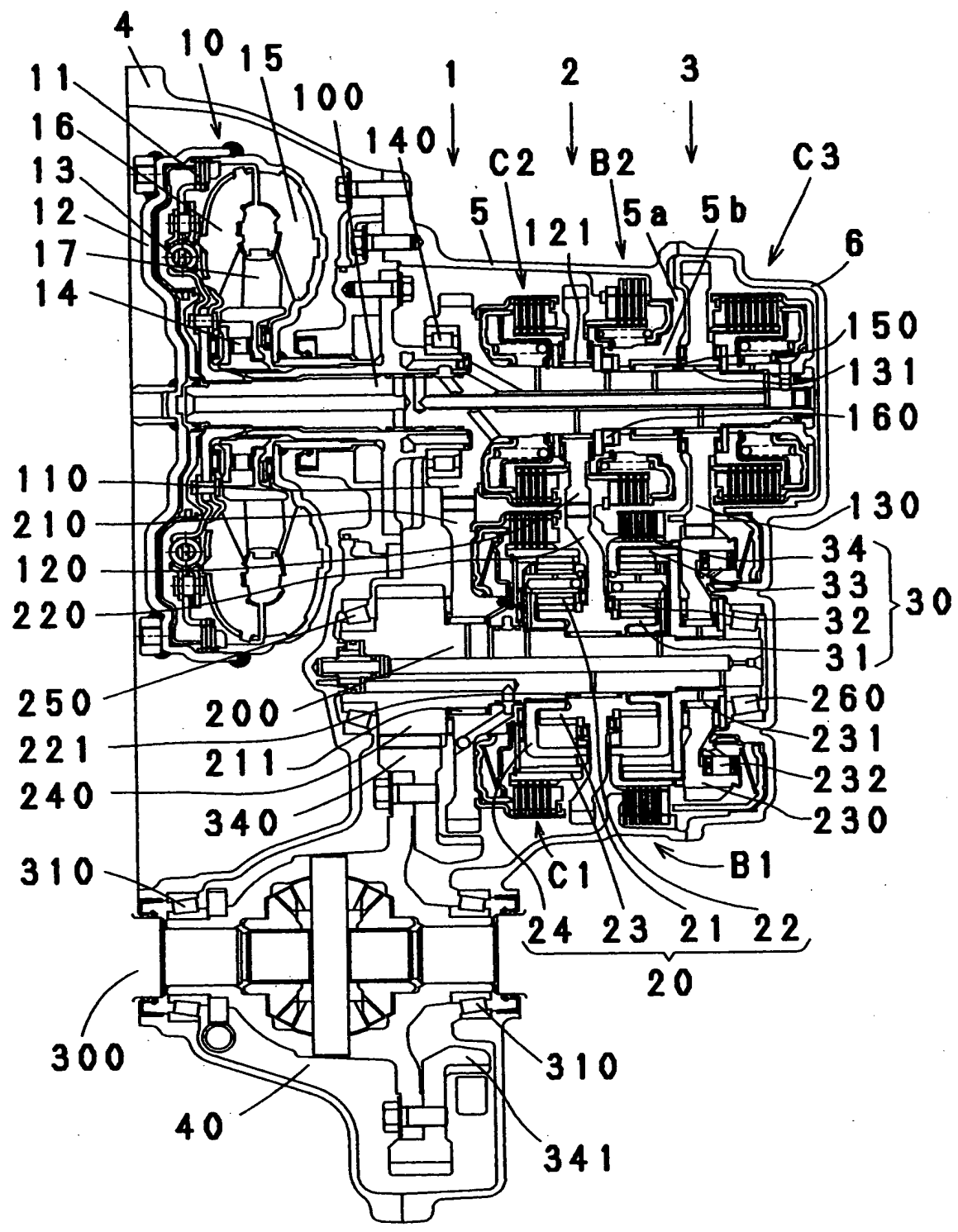


Fig 2

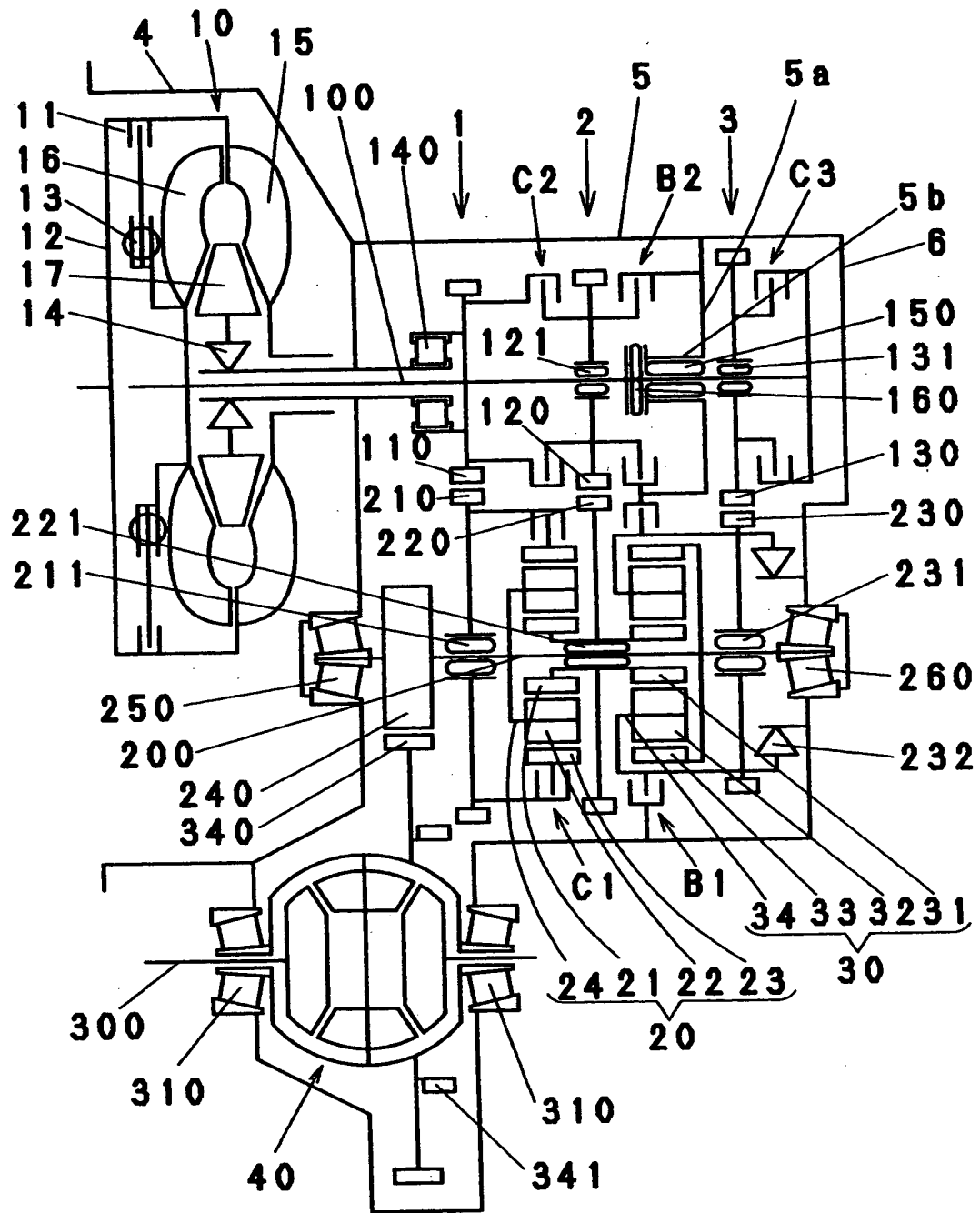


Fig 4

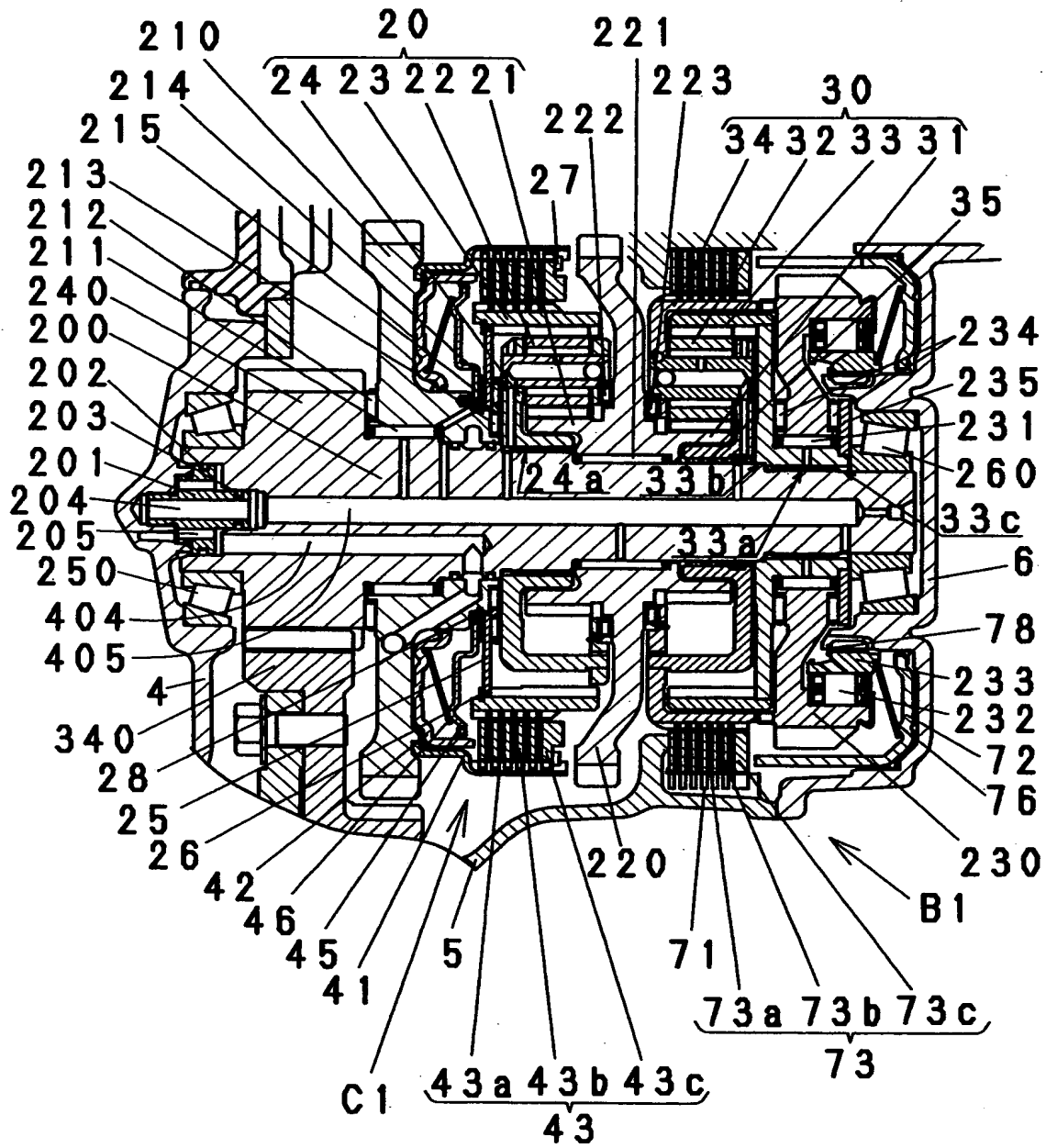


Fig 5

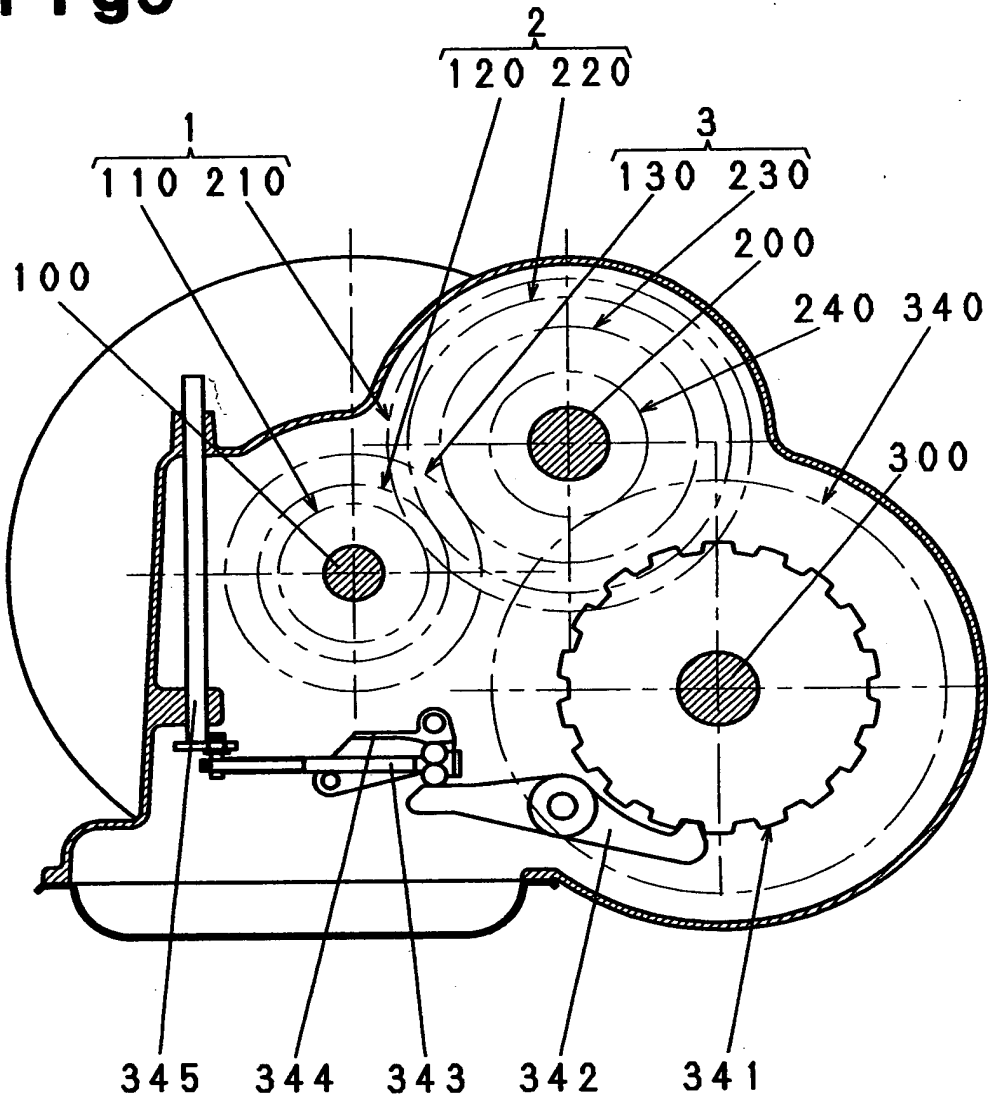


Fig 6

| COUNTER GEAR SET | 1/REDUCTION GEAR RATIO | NUMBER OF TEETH OF COUNTER GEAR | |
|------------------|---------------------------------|---------------------------------|---------------|
| | | FIRST SHAFT | SECOND SHAFT |
| 1 | $a_1 = Z_{11} / Z_{12} = 0.628$ | $Z_{11} = 54$ | $Z_{12} = 86$ |
| 2 | $a_2 = Z_{21} / Z_{22} = 0.687$ | $Z_{21} = 57$ | $Z_{22} = 83$ |
| 3 | $a_3 = Z_{31} / Z_{32} = 1$ | $Z_{31} = 70$ | $Z_{32} = 70$ |

| PLANETARY GEAR SET | TOOTH NUMBER RATIO | NUMBER OF TEETH SUN GEAR | NUMBER OF TEETH RING GEAR |
|--------------------|------------------------------------|-----------------------------|------------------------------|
| | | | |
| 1 | $\rho_1 = Z_{s1} / Z_{r1} = 0.552$ | $Z_{s1} = 37$ | $Z_{r1} = 67$ |
| 2 | $\rho_2 = Z_{s2} / Z_{r2} = 0.463$ | $Z_{s2} = 31$ | $Z_{r2} = 67$ |

Fig 7

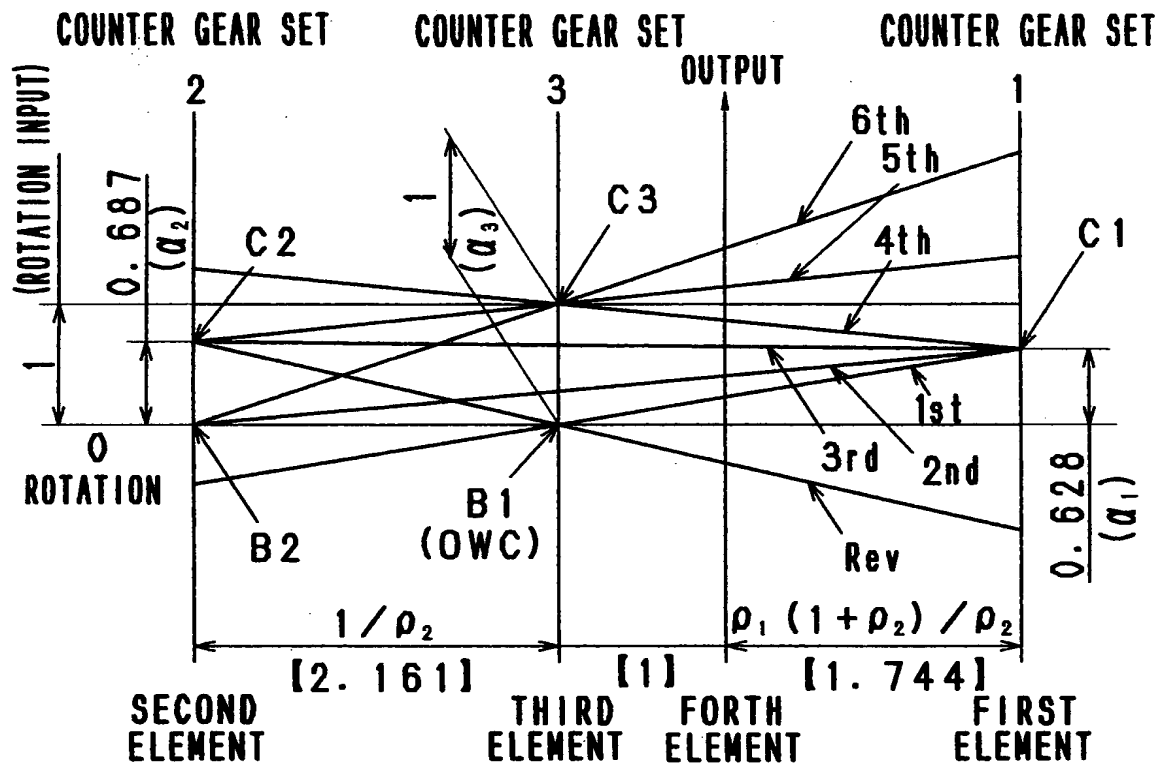


Fig 8

| SHIFT | ENGAGED | RATIO | STEP | RANGE |
|-------|---------|--------|----------|----------|
| 1st | C1. B1 | 4. 369 | > 1. 768 | > 6. 387 |
| 2nd | C1. B2 | 2. 471 | > 1. 588 | |
| 3rd | C1. C2 | 1. 556 | > 1. 345 | |
| 4th | C1. C3 | 1. 157 | > 1. 334 | |
| 5th | C2. C3 | 0. 867 | > 1. 268 | |
| 6th | B2. C3 | 0. 684 | | |
| Rev | C2. B1 | 3. 231 | | |

Fig 9

| COUNTER GEAR SET | 1/REDUCTION GEAR RATIO | NUMBER OF TEETH OF COUNTER GEAR | |
|------------------|---------------------------------|---------------------------------|---------------|
| | | FIRST SHAFT | SECOND SHAFT |
| 1 | $a_1 = Z_{11} / Z_{12} = 0.628$ | $Z_{11} = 54$ | $Z_{12} = 86$ |
| 2 | $a_2 = Z_{21} / Z_{22} = 0.591$ | $Z_{21} = 52$ | $Z_{22} = 88$ |
| 3 | $a_3 = Z_{31} / Z_{32} = 0.944$ | $Z_{31} = 68$ | $Z_{32} = 72$ |

| PLANETARY GEAR SET | TOOTH NUMBER RATIO | NUMBER OF TEETH | NUMBER OF TEETH |
|--------------------|------------------------------------|-----------------|-----------------|
| | | SUN GEAR | RING GEAR |
| 1 | $\rho_1 = Z_{s1} / Z_{r1} = 0.552$ | $Z_{s1} = 37$ | $Z_{r1} = 67$ |
| 2 | $\rho_2 = Z_{s2} / Z_{r2} = 0.463$ | $Z_{s1} = 31$ | $Z_{r2} = 67$ |

Fig 10

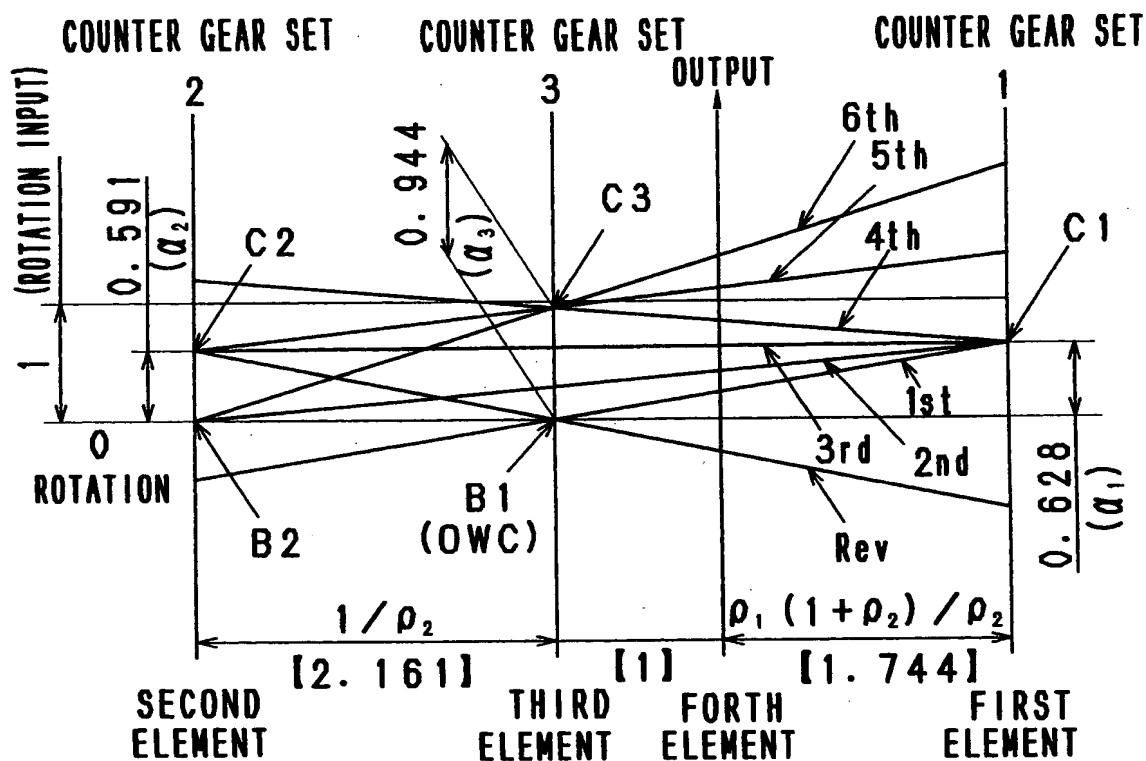


Fig 11

| SHIFT | ENGAGED | RATIO | STEP | RANGE |
|-------|---------|-------|---------|---------|
| 1st | C1, B1 | 4.369 | > 1.768 | > 6.035 |
| 2nd | C1, B2 | 2.471 | > 1.522 | |
| 3rd | C1, C2 | 1.623 | > 1.345 | |
| 4th | C1, C3 | 1.206 | > 1.334 | |
| 5th | C2, C3 | 0.904 | > 1.249 | |
| 6th | B2, C3 | 0.724 | | |
| Rev | C2, B1 | 3.632 | | |